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Attorney Docket No.: AM-8893 Y1

U.S. Express Mail No. EH 262364496 US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: Ki-Ho Baik, et al.

§ GROUP ART UNIT: 1763

SERIAL NO.: 10/817,140

§

§

FILED: April 2, 2004

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§

FOR: METHOD OF IMPROVING THE UNIFORMITY  
OF A PATTERNED RESIST ON A PHOTOMASK

§ EXAMINER: B.L. Raymond

§

§

§ ATTORNEY DOCKET NO.:

§ AM-8893

Date: July 31, 2008

**SUMMARY OF TELEPHONE INTERVIEW WITH SPE MARK HUFF  
TRANSMITTAL LETTER**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Submitted herewith is applicants' Summary of Telephone Interview in  
acknowledgement of the telephonic interview of July 24, 2008 between applicants' attorney  
and Supervisory Examiner Mark Huff.

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**CERTIFICATE OF MAILING UNDER 37 CFR § 1.10**

I hereby certify that this paper is being deposited with the U.S. Postal Service on the date  
shown below with sufficient postage as U.S. EXPRESS MAIL NO. EB 125488202 US in an  
envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450,  
Alexandria, VA 22313-1450.

Date: July 31, 2008

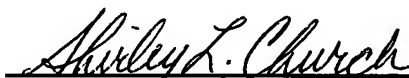
  
\_\_\_\_\_  
Shirley L. Church, Reg. No. 31,858

Applicants do not believe that any fee is due in connection with the filing of this Summary of Telephone Interview with SPE Mark Huff. However, the Commissioner is hereby authorized to charge any fees which may be due under 37 C.F.R. §1.16 and §1.17, which are required by this paper, to Deposit Account No. 50-1512 of Shirley L. Church, Esq., of San Diego, California.

This transmittal letter is submitted in duplicate for accounting purposes.

Respectfully submitted,

Date: July 31, 2008



Shirley L. Church, Esq.  
Attorney for Applicants  
Registration No. 31,858  
(858) 587-6633

Correspondence Address:

Customer No. 60767  
Shirley L. Church, Esq.  
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Fax: (858) 587-6606



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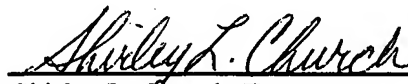
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U.S. Express Mail No.: EH 262364496 US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**APPLICANT:** Ki-Ho Baik et al.

SERIAL NO.: 10/817,140

FILED:           October 25, 2007

TITLE: METHOD OF IMPROVING THE  
UNIFORMITY OF A PATTERNED RESIST ON A  
PHOTOMASK



Group Art Unit: 1795

Examiner: B. L. Raymond

Attorney Docket No. AM-8893 Y1

July 31, 2008

**SUMMARY OF TELEPHONE INTERVIEW WITH SPE MARK HUFF**  
**HELD JULY 24, 2008**

**Mail Stop AF  
Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450**

Sir:

Applicants' attorney gratefully acknowledges the telephonic interview granted on July 24, 2008 with SPE Mark Huff, after efforts to contact Examiner B.L. Raymond had failed. The purpose of the interview was to discuss the refusal of the Examiner to accept applicants' Declaration of Prior Invention Under 37 C.F.R. § 1.131.

**CERTIFICATE OF MAILING UNDER 37 CFR § 1.10**

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Date: July 31, 2008

*Shirley L. Church*  
Shirley L. Church, Reg. No. 31,858

As applicants' attorney mentioned during the interview, applicants consider the Kirkpatrick reference 2006/0084229 to pertain to art which patentably distinct from the invention of applicants. The distinctions between the present invention and the Kirkpatrick reference subject matter were argued in applicants' Amendment "A", Amendment "B" and Preliminary Amendment "C". However, the Examiner apparently does not see the distinctions, and in view of the fact that applicants can swear behind the date of the Kirkpatrick reference, applicants' attorney decided to focus on removal of the Kirkpatrick reference in general.

Applicants' original submission of the Declaration Under 37 C.F.R. §1.131 was refused by the Examiner on grounds that applicants had not adequately shown that missing inventors' signatures could not be obtained. A petition regarding the absence of signatures was resolved and the Petitions Branch granted the request to have the Declaration accepted for review despite execution by less than all of the named inventors. Subsequently, the Examiner refused to accept the Declaration on grounds that the accompanying evidence was not sufficient to meet the burden of establishing that the invention was completed before the date of the reference.

Applicant's attorney contended during the interview that the evidence accompanying the Declaration was sufficient to establish that the applicants had the invention as currently claimed in hand prior to the critical filing date of the Kirkpatrick reference. The Examiner had argued that there is a pressure range recitation in independent Claim 1 which was not present in the "Invention Alert" of applicants which was submitted as evidence. Further, the Examiner had argued that the failure of the applicants to recite a vacuum pressure range in the Alert indicates that the pressure of the system may not have been important at the time of preparation of the Alert. Applicants' attorney contended that this latter argument is a strange argument, since the Abstract of the Invention and the

Summary of the Invention make it clear that the subject matter of the invention is the exposure of a photoresist on a photomask substrate to a vacuum after the photoresist has been exposed to imaging radiation, which results in improved critical dimension uniformity of the developed photoresist and to an improved dimension uniformity in the etched pattern present on the photomask. Actually, the most important teaching of the invention is the concept that the treatment of the exposed photoresist with a vacuum prior to use of the patterned photoresist to etch through a chrome layer on the photomask, leads to a very important improvement in etched feature critical dimension uniformity on the photomask. The precise amount of vacuum applied is not critical, since the amount of vacuum applied can be varied (depending on the time, temperature, and photoresist material) and still have the invention work.

Applicants' attorney pointed out to SPE Huff that the reason the range of the vacuum was not specified in the Invention Alert was because applicants' Alert provided the names of various processing tools in which the invention might be carried out, and the vacuum range capabilities of these tools were well known in the art. The various tools had been on sale since 1999 (Tetra 1 photomask etches), 2000 (Mebes eXara, electron beam photomask writer), 2002 (RSB, electron beam photomask writer), and 2003 ( Tetra 2 photomask etcher).

Applicants' attorney argued that one of skill in the art reading the Invention Alert which was submitted as evidence with the Declaration would be able to practice the invention as currently claimed. SPE Huff pointed out that the range of the vacuum which was recited in Claim 1 (and numerous other claims) was very broad. Applicants' attorney commented that this was because, depending on the photoresist material and the temperature of the photomask at the time the vacuum was pulled, and depending on the amount of time the user of the method was willing to allow for

practicing the method, the amount of vacuum applied could vary widely, and it was necessary to recite a broad vacuum range. Applicants had simply recited the vacuum range achievable in various equipment used in the art of photomask making. However, if the range was too broad, there is intellectual property case law to the effect that a claim is not invalid if there are some inoperable conditions within a variable range recited, so long as someone of ordinary skill in the relevant art would find it obvious how to include the variables in a manner so that the embodiment of the invention is operable rather than inoperable.

SPE Huff commented that the PTO Examiners have guidelines with respect to Declarations under 37 C.F.R. § 1.131 acceptability. These guidelines require that the variable range described in the evidence provided be at least a certain percentage of the variable range claimed. The precise percentage was not disclosed. Applicants' attorney remarked that this did not seem to be a problem in the present instance, since the operational vacuum ranges of the kinds of tools described included a broad percentage of the vacuum range claimed by the applicants.

SPE Huff suggested that applicants prepare an Amendment After Final Rejection and put into evidence the operable vacuum ranges for the tools described in the Invention Alert, as well as any other information showing information generally available in the art which might be helpful in support of the Declaration. Applicants' attorney said she thought it might be necessary to petition the issue of whether the evidence provided was adequate to sustain the Declaration, rather than to make the arguments as part of an Amendment or Response to Final Rejection. Applicants attorney indicated that she is concerned about whether this is a petitionable matter or a matter which would be decided by a Board of Appeals in the event the Final Rejection of the application is maintained. If the proper procedure is not employed, the issue may not be able to be raised on appeal. SPE Huff



commented that regardless of whether the issue regarding evidence had to be petitioned or appealed, he would recommend submitting as much information as possible into the application prosecution record.

Respectfully submitted,

A handwritten signature in cursive script that reads "Shirley L. Church". The signature is written in black ink and is positioned above a horizontal line.

Shirley L. Church

Registration No. 31,858

Attorney for Applicants

(858) 587-6633

Customer Number: 60767

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